

## ABSTRACT OF THE INVENTION

5       The present invention relates to novel human nucleic acid molecules encoding novel human cation channels, and proteins and polypeptides encoded by such nucleic acid molecules. More specifically, the nucleic acid molecules of the invention include the novel human gene designated  
10 HBMYCNG. The proteins and polypeptides of the invention represent a novel cation channel that may be therapeutically valuable targets for drug delivery in the treatment of human diseases which involve calcium, sodium, potassium or other ionic homeostatic dysfunction,  
15 such as central nervous system (CNS) disorders, e.g., stroke, anxiety and depression, or degenerative neurological disorders such as Alzheimer's disease or Parkinson's disease, or other disorders such as cardiac disorders, e.g., arrhythmia, diabetes, chronic pain,  
20 hypercalcemia, hypocalcemia, hypercalciuria, hypocalciuria, or ion disorders associated with immunological disorders, gasto-intestinal (GI) tract disorders, or renal or liver disease.

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